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Conrad Paumann and the evolution of solo lute practice in the fifteenth century[†]

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SOME TIME ago, Nino Pirrotta pointed out that a change of technique and style must have occurred in Renaissance lute playing shortly before the end of the fifteenth century. He was interpreting the description of performance practice in Paolo Cortese's *De cardinalatu libri tres* of 1510 which distinguishes between the older monophonic manner and the new polyphonic manner.¹ The earlier monophonic style using the plectrum technique, for which Cortese named Pietrobono de Burzellis as representative, persisted well into the sixteenth century. Some lutenists apparently were skilled in both styles of play and employed the one more suitable to the music they were performing. In 1523 Johannes Maria Germanus, whom Cortese credited with having established a new lute style, performed a composition for four voices with three other lutenists, using plectra in the monophonic manner.² Yet the performance of music in monophonic style was partially satisfactory for most of the sixteenth-century lutenists. Hans Judenkünig spoke for the artistic superiority of the finger technique over the plectrum technique,³ and Cortese regards solo lute style as "the first genre of playing that can be praised for the way in which it is arranged and put together."⁴ The stylistic change in lute playing may be the cause

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for the sudden appearance of lute tablatures in the late fifteenth century leading to the publishing of lute books in great numbers in the following century. Although in 1498 the Signory of Venice had granted Ottaviano Petrucci the privilege to print "Intaboladurè d'Organo et de liuto" in the Venetian dominions for twenty years,⁵ there was a nine-year hiatus before Petrucci actually published his first books of lute tablatures, Francesco Spinacino's *Intabulatura de lauto, libro primo* and *libro secondo* in 1507.⁶ Petrucci's inactivity in this field may be explained by the immaturity of the market that might have led to financial losses not only because lute tablature was relatively new but also because solo lute playing was itself still a novelty. References such as an inscription attached to the carnival song *Quant'è bella giovinezza* composed by Lorenzo the Magnificent on the lute prior to the occasion of its first performance in 1489 may not be considered evidence for the cultivation of solo lute technique among late fifteenth-century amateur lutenists.⁷ Professional lutenists, however, may already have cultivated the new practice in the third quarter of the fifteenth century, for Johannes Tinctoris in his *De inventione et usu musicae* acknowledges the technical demands imposed by the performance of polyphonic compositions not only for two voices but also for three or four on the solo lute and cites "Henricus" and "Orbus ille germanus" as pre-eminent lutenists in this style.⁸

According to Tinctoris, the lutenist "Henricus" was in the service of Charles the Bold.⁹ This musician is likely to be identical with a Henry Bouclers who is listed along with his brother Lienart as a lutenist in the register of the accounts for the Burgundian court for the years between 1467 and 1468.¹⁰ While Henry Bouclers's name does not appear in the detailed list for the minstrels employed by Philip the Good at the Burgundian court, he may already have been in Charles the Bold's service before Charles's accession to the dukedom in 1467.¹¹ Henry Bouclers may have been a member of a German family of instrumentalists who worked in the Burgundian orbit in the third quarter of the fifteenth century. Another lutenist called Conrart Bouclin who was in the service of the bishop of Liège in 1468 may have been related to Henry.¹² In the next year, Charles the Bold expressed his gratitude to Henry and Lienart Bouclers as well as to Gaultier de Berchem by purchasing from a German merchant named

Molhams three new lutes, possibly made by a famous lute maker Conrade Gerle.¹³ A financial document from the same court in 1488 records Archduke Maximilian's gift of a lute to Lienart Bouclers, perhaps indicating the lutenist's continuous presence at the court.¹⁴ His brother Henry may also have remained there for some time after his disappearance from the court's account books in 1470. Since Tinctoris's *De inventione et usu musicae* seems to have been written in 1480 or shortly thereafter, his description of Henry Bouclers as "recently in the service of Charles, Duke of Burgundy" implies that the theorist obtained his information on the lutenist when he made an undocumented trip north between 1476 and 1480.¹⁵ Moreover, it suggests that Henry Bouclers had already died when the Duke lost his own life in the battle of Nancy in 1477; or at least, Tinctoris thought that Henry had died just prior to the compilation of the treatise.

The identification of "Orbus" poses problems because of the meager biographical information Tinctoris offers in his *De inventione et usu musicae* where he describes Orbus as a virtuoso German lutenist.¹⁶ Filippo Oriolo da Bassano in his *Monte Parnaso*, written between ca. 1519 and 1522, mentions a certain "Orbo" among the most skillful lutenists of the late fifteenth and early sixteenth centuries.¹⁷ Since Oriolo seems to list the lutenists in chronological order, he implies that Orbo was a contemporary of or slightly earlier than Pietrobono who was active as a musician between about 1440 and 1497.¹⁸ This fits the comparison Tinctoris made of two lutenists in his treatise, in which Pietrobono is described in the present tense while Tinctoris seems to refer to Orbus as no longer alive at the time.¹⁹

A Giovanni Orbo who is recorded as having been in the service of the Este court in Ferrara between 1468 and 1478 should not be confused with the lutenist *Orbus ille germanus*. Giovanni Orbo appears to have been a Parmesan improviser who made use of narrative verse-forms.²⁰ The poet is reported to have accompanied himself on the "lira",²¹ a word that might designate the lute or some other string instrument such as the lira da braccio.²² His style must have been similar to that of the improviser Serafino dall'Aquila also known to have recited poems to his own accompaniment "cum el leuto in brazo" at the Mantuan court in 1495²³ and to Pietrobono's singing on the "cetra" praised by Antonio Cornazano.²⁴

Neither Johannes Orbus nor his brother Carolus whom Tinctoris mentions as expert instrumentalists were identical with *Orbus ille germanus*. Tinctoris specifically calls the brothers Flemish,²⁵ although the distinction between German and Flemish may have been arbitrary after the marriage of Mary of Burgundy and Archduke Maximilian in 1477. Tinctoris testifies to the skill of Johannes and Carolus Orbus who possessed the knowledge of literature and had mastered the *viola cum arculo*, an instrument Tinctoris regards as highly suitable for the recitation of poems.²⁶ Their performance of a two-voice polyphonic music for which Johannes played the superius and Carolus the tenor on their respective instruments impressed Tinctoris immensely. The occasion took place in Bruges possibly between 1476 and 1480, since Tinctoris refers to it as "a recent event". Tinctoris gives an impression that the two musicians were still active at the time of his writing while he described *Orbus ille germanus* in the past tense.

The possibility for identifying *Orbus ille germanus* improves if we think of "Orbus" not as a surname but as an epithet, either referring to blindness or orphanhood. The Marchese Ludovico Gonzaga's letter of 11 March 1470 mentions "Orbo sonatore da Monacho" and tells of the difficulty of recruiting the musician to the Mantuan court.²⁷ Orbo, he reports, fancied that Italian instrumentalists might poison him out of jealousy; therefore he trusted nobody at the court except Margherita of Bavaria with whom he must have been acquainted in Munich. The letter was a reply to Galeazzo Maria Sforza who requested that this Orbo be sent to Milan "con tutti gl'instrumenti che sa sonare."²⁸ Two months later the King of Naples asked Ludovico Gonzaga about a German musician whose name was unknown to the Neapolitan court but who had the reputation of being a virtuoso instrumentalist.²⁹ In the next letter, Ferdinand states that Johannes Oriola, who must have been a Neapolitan agent at Mantua,³⁰ had reported that this German musician was in the service of Duke of Bavaria, and he therefore asked the Marchese of Mantua to forward his letter to the Duke in order to recruit said musician to Naples.³¹ That this German musician was alternately called "uno musico todisco ceco" and "uno orbo musico *omne* instrumento" suggests that "Orbo" referred not to his surname but his blindness.³² The documents may refer to the blind German organist Conrad Paumann, for

his presences at the Mantuan court in 1470 is attested to by his elevation to the knighthood by the Gonzaga.³³ Paumann spent twenty years in Munich, having served successively under Sigmund and Albrecht IV at the time of his arrival in Italy in 1470. He was therefore entitled to be "Conrat von Mönchen" even though he was born in Nuremberg.³⁴ Paumann's reputation as having the ability to play many instruments accords with the inscription on his epitaph that reads "Anno 1473 ... was here buried the most ingenious master of all instruments and music, Conrad Paumann, knight, born blind at Nuremberg ..."³⁵ The epitaph also portrays Paumann playing a portable organ surrounded by a lute, a harp, a recorder and a rebec, showing evidence of his interest in these instruments and perhaps even his mastery of them.³⁶ Although it must be stated that there is no concrete evidence that Paumann is identical with Tinctoris' *Orbus*, it is still possible not only because Paumann matches Tinctoris's description of *Orbus ille germanus*, but also because the evolution of solo lute practice is closely associated with German organ music of the mid-fifteenth century.

The most important technical change leading to solo lute practice was the use of bare fingers for plucking the strings. This made possible the simultaneous playing of various polyphonic voices on non-adjacent courses. Judenkünig's statement of 1523 about the new finger technique as a recent innovation suggests that the change in the technique of Renaissance lute playing took place in the mid fifteenth century.³⁷ Paulus Paulirinus in his *Liber viginti artium*, written in Pilsen between 1459 and 1463, reports the common use of plectrum among lutenists.³⁸ Tinctoris is the first to mention finger technique.³⁹ Iconographical sources also imply that the change to the new technique must have occurred during the third quarter of the fifteenth century and that the finger technique seems at first to have been employed as a substitute for the plectrum. A lutenist depicted in Niccolò da Foligno's *Madonna and Child*, dated c. 1465, plays the lowest string of a lute with the thumb which is the only available finger for plucking since the rest of the fingers hold the instrument.⁴⁰ Early sixteenth-century lute instructions call for the use of the thumb when the music is monophonic.⁴¹ Within limits, polyphony on the lute can be played using either a plectrum or a finger. Judenkünig explains that

chords may be strummed with the thumb, presumably arpeggiating the notes from the lowest course to the highest.⁴² He recommends the technique especially for dance arrangements. In the *Saltarello* for two lutes by Joan Ambrosio Dalza, for instance, the second lute repeats a chord for the entire composition, creating a simple drone effect.⁴³ Yet this technique of strumming produces only pseudo-polyphony, since the voices must be played on adjacent courses. Performing a single line of music by plucking the strings with one finger may have led lutenists to develop the technique of plucking alternately downward with the thumb and upward with the index finger. A depiction of this method may be seen in an engraving by Alart du Hameel in which the lutenist seems to be playing a part of a vocal composition from a music manuscript.⁴⁴ This technique was first described in the instructions included in the lute books published by Petrucci and persisted as a basic right-hand technique throughout most of the sixteenth century.⁴⁵

Various ways of holding a lute depicted in fifteenth-century paintings illustrate various technical capacities of lutenists, since the number of polyphonic voices a lutenist can manage depends upon the number of fingers available for plucking. A miniature in Valerius Maximus's *De dictis et factis romanorum* of ca. 1470 depicts a bath scene in which a lutenist provides entertainment for the amorous courtiers and ladies, their behavior despised by the King and his councilor who look in.⁴⁶ The placing of the lutenist's right thumb and index finger on the strings shows that he can perform two-voice polyphony on his lute by plucking two separate courses simultaneously. An intabulation of Johannes Vincenet's rondeau *Fortune, par ta cruaulté* preserved in the Bologna manuscript requires the simultaneous employment of two fingers, presumably the thumb and index finger, since the almost exact transcription of the chanson's tenor and contratenor must in some instances be played on non-adjacent courses.⁴⁷ Hans Gerle offers examples of two-part compositions for which the thumb and index finger must be used.⁴⁸ He further explains that the middle finger should be added for three-voice polyphony. The right-hand posture shown by a wooden bust of Pythagoras by Jörg Syrlin the Elder, dated ca. 1470, from a choir-stall in the cathedral of Ulm, demonstrates the technique of dealing with three-voice compositions.⁴⁹ Pythagoras is

depicted in the act of plucking the lowest string of a six-string lute with his thumb, the third and first strings with the index and middle fingers respectively. His ring finger would also have been employed for four-voice polyphony since it appears to be in a position preparatory to plucking. Syrlin's placement of the lute on a pedestal enabled the lutenist to cope with the technically demanding left-hand fingerings required by the production of independent voices, such as the application of the *barré* technique, and to make the smooth position changes on the fingerboard that consequently expands the range obtainable on the lute. Albrecht Dürer's new naturalism led him to draw an enormous block which has no purpose other than supporting the angel's lute.⁵⁰ On the other hand, the manner of supporting the lute with the left hand mentioned by Tinctoris as a common practice at his time⁵¹ and depicted in Giovanni Bellini's *Madonna Enthroned*, dated ca. 1478,⁵² made for limitations; the technique must have been confined to the performance of unpretentious music.

The new finger technique for the lute may have been adapted from the technique of other instruments on which solo performance of polyphonic compositions was possible. Paumann's epitaph shows him playing a portative organ placed on his lap while pressing the keys with his right-hand fingers and working the bellows with his left hand.⁵³ The Buxheim Organ Book in which some compositions are attributed to Paumann offers examples of fifteenth-century polyphonic vocal compositions arranged for solo performance.⁵⁴ The possibility of playing polyphonic music on the harp by plucking the strings with bare fingers has been convincingly argued, and the practice may date from earlier in the century.⁵⁵ Thus Paumann's acquaintance with the organ and harp increases the possibility that he cultivated solo lute technique and even that he could have been responsible for the transfer of the fingering technique from one instrument to another.

Solo lute style is described by Cortese as a combination of ornamented superius and un-ornamented lower voices.⁵⁶ It closely resembles his description of Pietrobono's monophonic lute style. What his contemporary and later writers praised in Pietrobono's performance was his skill in ornamenting the superius part with small rhythmic values, extensively using proportions and syncopations,

while his *tenorista* provided the un-ornamented version of the lower part of the composition.⁵⁷ On the other hand, Cortese implies that the number of ornaments applied to the *superius* in solo lute style is generally fewer than these of the monophonic style. Perhaps the inclusion of extravagant ornamentation caused technical difficulty for the solo lutenist. The keyboard compositions of the Buxheim Organ Book stylistically conform to Cortese's description of solo lute style. Paumann's intabulation, for instance, of Binchois's ballade *Je loe amours* consists of a moderately ornamented *superius* and the almost un-decorated tenor and *contratenor* of the vocal original.⁵⁸ The inscription "in cytaris vel etiam in organis" attached to the intabulation confirms that the composition primarily written for keyboard instrument could be performed on other instruments, and the Buxheim Organ Book may therefore be preserving the lutenist's repertory.⁵⁹ If the "chitara" designates the lute as Paulirinus testifies,⁶⁰ Paumann's intabulation could be the earliest known source of music specifically to be played with a solo lute technique such as that depicted in Syrlin's sculpture.

Tuning instructions for the lute begin to appear in the late fifteenth century, roughly coinciding with the emergence of solo lute practice and with the supposed date of the earliest extant lute tablatures. The need for specifying tuning systems became clear once lute tablature was in common use. Because lute tablature does not give pitches but finger positions, there would have been chaos if lutenists used random tunings to encipher their intabulations. Surviving tuning instructions and tablatures show that standard tuning existed in the late fifteenth century. The intervals between the open strings of a five-course lute are, from the highest sounding course to the lowest, 4th, 4th, 3rd, 4th; and the sixth course may be tuned a fourth below the fifth course.⁶¹ Tinctoris describes various string instruments of his time and comments that the number of polyphonic voices produced on an instrument depends not only on the technical skill of performer, but also on the number of strings the instrument carries.⁶² The extension of the range provided the capacity to produce more polyphony on a single instrument. Two-voice compositions can be comfortably played on the five-course lute with seven frets whose range consists of two octaves and one note if the instrument is tuned in the standard

way. The insufficient range of the five-course lute for three- or four-voice polyphony may have been a reason for some German lutenists to have added a sixth, for the six-course lute in this tuning can encompass all the notes of the Guidonian hand.⁶³

When Sebastian Virdung named Conrad Paumann the inventor of German lute tablature, he encountered immediate scepticism expressed by his contemporaries. Virdung credits Paumann with having arranged the entire alphabet, supplemented by a few other symbols and numerals, on the fingerboard of the lute with five courses and seven frets.⁶⁴ Although Martin Agricola's *Musica instrumentalis deutsch* was based on Virdung's *Musica getutscht*, he regarded Virdung's story as untenable and even avoided mentioning Paumann's name, calling him "a blind master lutenist".⁶⁵ Agricola questions a blind person's capability of inventing a lute tablature or of understanding any musical notation. Yet Agricola's doubts engender doubts themselves, since he needed justification for the proposal of his own tablature system. His chief objection to the already established German lute tablature was that it employed more characters than the notes in the Gamut system. He therefore proposed to replace it with the first letter of the note-names in the Guidonian hand, the system that closely resembles the notation for the lower voices of German organ tablature.⁶⁶ Hans Gerle must have been aware of the controversy, for he attacks the opinion, possibly advanced by Agricola, that the current tablature system conceived by a "blind man" is undistinguished and without foundation.⁶⁷ Debating Agricola's hybrid form of lute tablature, Gerle criticizes the suitability of organ tablature for lutenists. Gerle specifically describes various advantages of tablature not only for sighted lutenists but also for blind ones and cites Adolf Plindthamer, the lutenist to Emperor Maximilian I, in order to seek authority for keeping the current system.⁶⁸

German lute tablature was relatively new when it began to appear in print, as we can infer from Judenkünig in 1523 when he stated that the invention of lute tablature took place "within human memory".⁶⁹ The arrangement of letters and numerals indicates that German lute tablature was originally designed for a five-course lute. The open strings are designated by the numbers 1 to 5 from the lowest to the highest, the highest sounding course significantly referred to as the

“quintsait” even after more strings had been added to the instrument. Letters are applied across the strings to signify the chromatic steps, a-e signifying the first frets on the five courses, f-k the second ones, and so on. According to Virdung, a series of letters or numerals independent of the rest of the notation to denote the sixth course was added after the establishment of the five-course system, the practice confirmed by the employment of various methods of notating the lowest course in the sixteenth-century German lute tablatures and instructions.⁷⁰ Tinctoris remarks that German lutenists first cultivated the addition of the sixth course, significant, if circumstantial evidence to support the invention of German lute tablature prior to the compilation of his *De inventione et usu musicae*.⁷¹ There are preserved, furthermore, four melodies ciphered in this system in the *Königstein Songbook* dating from between 1470 and 1473 and originating in southern Germany, that is, within the period and region of Paumann’s activity.⁷²

The resemblances between German organ tablature and German lute tablature lead to the assumption that the latter adapted the notational devices and characteristics of the former.⁷³ German lute tablature employs letters of the alphabet to represent the frets while the symbols in organ tablature, that are derived from the first letters of the note-names in the Guidonian hand, denote keys of the instrument. Dashes are used in organ tablature to indicate a note an octave higher. Likewise, when the entire alphabet is exhausted in indicating the frets in the lower position of the lute fingerboard, letters are reused with a dash attached above to denote the frets in the higher position. The capital letters that signify the lower octave in some early sixteenth-century German organ tablatures may have influenced the use of capital letters to denote the sixth course of the lute. Moreover, rhythmic signs, such as dots and vertical lines, are unique to these systems, although lutenists confined their use of rhythmic signs to those shorter than a breve, since normally the longest sustainable note value on the lute is the semibreve.⁷⁴

If German lute tablature derived from German organ tablature, there appears to be a problem with its inventor. How could Paumann have adapted a notation which, presumably, he had never seen? Even that can be rationalized by the fact that someone explained to him how organ tablature was constructed. It could be argued that whoever

helped him adapt it may be the actual inventor of the system on his behalf.⁷⁵ Indeed, individual signs that specifically denoted each fret of the forty places on the five-course lute might have facilitated the method of notation for the blind Paumann who must have relied on dictation to an amanuensis. Because of these particular notational characteristics, Paumann might have preferred lute tablature to notate his lute music instead of employing organ tablature which he must somehow have known. Hans Gerle explained the advantage of lute tablature which can be utilized to transmit the compositions of blind lutenists who otherwise keep their music "im Kopf oder Memori und in Übung."⁷⁶ It must be admitted that in the case of the invention of German lute tablature Virdung admits his story is hearsay.⁷⁷ The system of letters in German lute tablature certainly benefited Paumann even if he was not its actual inventor. Perhaps it was merely his advocacy of the system that led to Paumann being called its inventor.

The assumption that German lutenists predominated in the second half of the fifteenth century is based on the fact that German lutenists frequently appeared in the payment records of various northern European courts and that a number of lutenists who were working in Italy at this period had the surname of "Tedesco" or "Teutonico".⁷⁸ Tinctoris testifies to the technical superiority of many German lutenists who were "exceedingly accomplished and renowned" in the monophonic manner of lute playing.⁷⁹ The two virtuoso lutenists specializing in polyphonic music that Tinctoris singles out seem to have been German. Considering this background, it is not surprising to find Cortese believing that the new lute style was "first established" by Balthasar and Johannes Maria, both surnamed *Germanus*. Munich flourished as a center for instrumental music in Germany, attracting not only a number of organists, but also lutenists and lute-makers.⁸⁰ Tinctoris believed that technical innovations such as the addition of courses on the lute and the use of brass strings were first made by Germans.⁸¹ It was in Munich where the high quality strings called "Minikins" and also, as a Venetian envoy at the Bavarian court in 1492 implies, metal strings were manufactured.⁸² Although the identification of "Orbus ille germanus" with Paumann is speculative, Paumann could have invented the solo lute practice. Iconographical sources as I have mentioned above show that finger technique was already known in

Ulm, a city not far from Munich, in about 1470, while Paumann was still active. The new technique of playing the lute and of writing in tablature was derived from the technique and notation of organ music. Whether Paumann invented German lute tablature cannot be ascertained, yet the legend implies that Paumann cultivated a solo lute style that required some notational device to record his compositions. This leads to an assumption that Paumann could have introduced solo lute practice into Italy in about 1470, while the biographical data for Henry Bouclers show that the new style must have been known at the Burgundian court at least at the end of 1470s. Thus solo lute practice was relatively new when Tinctoris reported on it. The change in technique and style of Renaissance lute playing took place in the third quarter of the fifteenth century, probably as a result of the practices of German lutenists, among them Conrad Paumann.

Notes

1. Nino Pirrotta, "Music and Cultural Tendencies in 15th-Century Italy," *Journal of the American Musicological Society*, XIX (1966), pp. 157-58, and a facsimile and a translation of the relevant passages in Paolo Cortese, *De cardinalatu libris* (Castel Cortesiano, 1510), Book II, fol. 73-73v, on pp. 149-50 and 153-54, respectively.
2. Pirrotta, "Music and Cultural Tendencies," p. 158, gives a translation on Johannes Maria's performance in Marino Sanudo's *I Diarii*, XXXIV [Venice, 1892], col. 216. For Johannes Maria's biography, see H. Colin Slim, "Gian and Gian Maria, Some Fifteenth- and Sixteenth-Century Namesakes," *The Musical Quarterly*, LVII (1971), pp. 563-68.
3. Hans Judenkünig, *Ain schone kunstliche Underweisung . . . zu lernen auff der Lauten und Geygen* (Vienna, 1523), f. A lv. The volume is listed and described in Howard Mayer Brown, *Instrumental Music Printed before 1600: A Bibliography* (Cambridge, Mass., 1965), pp. 25-27, item 1523-2. The instructions are reprinted in facsimile in Helmut Mönkemeyer, ed., *Hans Judenkünig: Ain schone kunstliche Underweisung . . . 1523*, Die Tabulatur, X (Hofheim am Taunus, 1970) and are partially translated in Martha Blackman, "A Translation of Hans Judenkünig's *Ain schone kunstliche Underweisung . . . 1523*," *The Lute Society Journal*, XIV (1972), 29-41.
4. Pirrotta, "Music and Cultural Tendencies," p. 153.
5. The privilege is reprinted in Anton Schmid, *Ottaviano dei Petrucci da Fossombrone, der erste Erfinder des Musiknotendruckes mit beweglichen Metalltypen und seine Nachfolger im sechzehnten Jahrhunderte* (Vienna, 1845; 1968), pp. 10-11, and is translated in Gustave Reese, "The First Printed Collection of Part-Music," *The Musical Quarterly*, XX (1934), p. 40.

6. See Brown, *Instrumental Music*, pp. 12-14, items 1507-1 and 1507-2. Spinacino's works are transcribed completely and discussed in Henry Louis Schmidt III, "The First Printed Lute Books: Francesco Spinacino's *Intabulatura de Lauto*, *Libro primo* and *Libro secondo* (Venice: Petrucci, 1507)," Ph.D. diss., University of North Carolina, 1969.
7. Walter H. Rubsamen, "The Music for 'Quant'è bella giovinezza' and Other Carnival Songs by Lorenzo de' Medici," *Art, Science, and History in the Renaissance*, ed. Charles S. Singleton (Baltimore, Maryland, 1967), p. 171, quotes the inscription. The three-part setting is transcribed in *ibid.*, pp. 181-82; and in Joseph J. Gallucci, Jr., ed., *Florentine Festival Music 1480-1520*, Recent Researches in the Music of the Renaissance, vol. XL (Madison, Wis., 1981), pp. 6-7.
8. Johannes Tinctoris, *De inventione et usu musicae* (Naples, ca. 1487), Libro quarto. See Karl Weinmann, *Johannes Tinctoris (1445-1511) und sein unbekannter Traktat 'De inventione et usu musicae'* (Regensburg, 1917; Tutzing, 1961), p. 45, for the original Latin text; and Anthony Baines, "Fifteenth-Century Instruments in Tinctoris's *De Inventione et Usu Musicae*," *The Galpin Society Journal*, III (1950), p. 24, for an English translation.
9. Weinmann, *Johannes Tinctoris*, p. 45; and Baines, "Fifteenth-Century Instruments," p. 24.
10. Léon Emmanuel de Laborde, *Les Ducs de bourgogne: Études sur les lettres, les arts et l'industrie pendant le XV^e siècle*, I (Paris, 1849), p. 499, Document 1937.
11. For a list of minstrels employed at the Burgundian court between 1420 and 1468, see Jeanne Marix, *Histoire de la musique et des musiciens de la cour de Bourgogne sous le règne de Philippe le Bon (1420-1467)* (Strasbourg, 1939; repr. Geneva, 1972), pp. 264-74.
12. The document about Conrart Bouclin is reproduced in Edmond vander Straeten, *La Musique aux Pays-Bas avant le XIX^e siècle*, II (Brussels, 1872; New York, 1969), p. 370; and is cited in Michel Brenet, *Notes sur l'histoire du luth en France* (Turin, 1899; 1973), p. 7. Lionel de la Laurencie, *Les luthistes* (Paris, 1928), p. 14, suggests that "Bouclers" is a corrupt form of a German name "Büchlin". The documents variously spell the name as Bouclers, Boclars, Beuckel or Bouclin. On this, see Straeten, *La Musique aux Pays-Bas*, II, p. 370, n. 2.
13. The document is reproduced in Straeten, *La Musique aux Pays-Bas*, II, pp. 368-69. For Conrad Gerle, see Howard Mayer Brown, "Gerle, Conrad," *The New Grove Dictionary* (London, 1980), VII, 259-60.
14. The document is reproduced in Straeten, *La Musique aux Pays-Bas*, II, p. 370.
15. Ronald Woodley, "Johannes Tinctoris: A Review of the Documentary Biographical Evidence," *Journal of the American Musicological Society*, XXXIV (1981), pp. 235-36, postulates that Tinctoris must have made a trip between 1476 and 1481. Heinrich Hüschen, "Tinctoris, Johannes," *The New Grove Dictionary*, XVIII, 839, maintains that Tinctoris's *De inventione et usu musicae* was written after the battle of Otranto in 1480 and was published at Naples ca. 1487. Tinctoris must have been in Naples in 1480, the fact he mentions in *De inventione et usu musicae*. Christopher Page, "The 15th-Century Lute: New and Neglected Sources," *Early Music*, 9 (1981), p. 12, reports that the treatise was

- published between ca. 1481 and 1483, the information supplied by Ronald Woodley. Woodley announced in his "Johannes Tinctoris," p. 224, n. 7, his forthcoming article "Some Re-discovered Fragments of Tinctoris's Treatise *De inventione et usu musicae*" in which new material on its date will be provided.
16. Weinmann, *Johannes Tinctoris*, p. 45; and Baines, "Fifteenth-Century Instruments," p. 24.
 17. See H. Colin Slim, "Musicians on Parnassus," *Studies in the Renaissance*, XII (1965), pp. 145 and 152.
 18. For Pietrobono's biography, see Lewis Lockwood, "Pietrobono and the Instrumental Tradition at Ferrara in the Fifteenth Century," *Rivista italiana di musicologia*, X (1975), 115-133.
 19. Weinmann, *Johannes Tinctoris*, p. 45; and Baines, "Fifteenth-Century Instruments," p. 24. Tinctoris may have met Pietrobono at Naples in 1473 or at Ferrara in 1479. See Pirrotta, "Music and Cultural Tendencies," p. 141, n. 53; and Lockwood, "Pietrobono," p. 128, n. 39.
 20. See Giulio Bertoni, "Il Cieco di Ferrara e altri improvvisatori alla corte d'Este," *Giornale storico della letteratura italiana*, XCIV (1929), 273.
 21. See Giuseppe Rua, "Postille su tre poeti ciechi: Francesco da Ferrara, Giovanni e Francesco da Firenze," *Giornale storico della letteratura italiana*, 11 (1888), 295, n. 5.
 22. Tinctoris, *De inventione*, wrote: "Quid sit lyra populariter leutem dicta." See Weinmann, *Johannes Tinctoris*, p. 40; and Baines, "Fifteenth-Century Instruments," p. 21. For further informations on "lyra", see Howard Mayer Brown, *Sixteenth-Century Instrumentation: The Music for the Florentine Intermedii*, Musicological Studies and Documents, 30 (American Institute of Musicology; n.p., 1973), pp. 39-49.
 23. See Walter H. Rubsamen, *Literary Sources of Secular Music in Italy ca. 1500* (Berkeley and Los Angeles, 1943), p. 33. Cortese singles out Serafino as the originator of the renewal of singing poems on the lute. See Pirrotta, "Music and Cultural Tendencies," p. 155.
 24. See Pirrotta, "Music and Cultural Tendencies," pp. 140-41, 144-46. Further biographical informations on Zohanne Orbo may be found in Emilio Motta, "Musici alla corte degli Sforza," *Archivio storico Lombardo: Giornale della società storica Lombarda*, serie seconda, 14 (1887), p. 283, n. 1; in Rua, "Postille," p. 295, n. 5; in William F. Prizer, *Courtly Pastimes: The Frottole of Marchetto Cara*, Studies in Musicology, 33 (UMI Research Press; Ann Arbor, 1974; 1980), p. 13; and in Lockwood, "Pietrobono," p. 131.
 25. Weinmann, *Johannes Tinctoris*, p. 45; and Baines, "Fifteenth-Century Instruments," p. 24.
 26. Weinmann, *Johannes Tinctoris*, p. 45; and Baines, "Fifteenth-Century Instruments," p. 24. On the viol, see Ian Woodfield, *The Early History of the Viol* (Cambridge, 1984), esp. p. 96.
 27. The letter is reproduced and translated in Prizer, *Courtly Pastimes*, pp. 4, 168-69.
 28. See Pietro Canal, *Della musica in Mantova: Notizie tratte principalmente dall'archivio Gonzaga* (Mantua, 1881; n.p., 1977), p. 5. On Galeazzo's interest in organ music, see Motta, "Musici alla corte degli Sforza," pp. 283-93; and Claudio Sartori, "Organs, Organ-Builders, and Organists in Milan, 1450-

- 1476: New and Unpublished Documents," *The Musical Quarterly*, XLIII (1957), 57-67.
29. The letter of 20 May 1470 is reproduced in Antonio Bertolotti, *Musici alla corte dei Gonzaga in Mantova dal secolo XV al XVIII* (Milan, 1890; Bologna, 1969), p. 8.
 30. Johannes Oriola's letter is cited in Prizer, *Courtly Pastimes*, p. 3, 168, n. 16.
 31. The letter of 6 July 1470 is reproduced in Bertolotti, *Musici alla corte dei Gonzaga*, p. 8.
 32. In the Ferrarese documents written in Latin, a poet Francesco Orbo is alternately referred to as "orbo" or "ceco". See Bertoni, "Il Cieco di Ferrara," p. 276; and Woodley, "Johannes Tinctoris," p. 235, n. 49. I am indebted to Dr. F. Joseph Smith for informing me of some classical works of literature that contain the word "Orbus".
 33. For a summary of Paumann's biography, see Christoph Wolff, "Paumann, Conrad," *The New Grove Dictionary*, XIV, p. 308-9. According to Alfred Einstein, *The Italian Madrigal*, I (Princeton, 1949; 1971), p. 53, H. Canisius, *Lectiones antiquae* (Ingolstadt, 1601-1604) in J. Basnage's *Thesaurus monumentorum ecclesiasticorum*, III/2 (Amsterdam, 1725), p. 493, "asserts that Paumann had been knighted in Italy."
 34. Franz Krautwurst, "Konrad Paumann in Nördlingen," *Festschrift Heinrich Bessler zum Sechzigsten Geburtstag* (Leipzig, 1961), p. 208, Document 6.
 35. The translation is taken from Wolff, "Paumann," p. 308. The epitaph is reproduced in Franz Krautwurst, "Paumann," *Die Musik in Geschichte und Gegenwart*, 10, col. 970.
 36. Krautwurst, "Paumann," col. 969, quotes Johann Staindl's *Chronicon generale* (*Johannis Staindelii chronicon generale* in A.F. Oefele, *Rerum boicarum scriptores*, I (Augsburg, 1763), p. 539) about Paumann: "in omnibus tamen musicalibus artibus expertissimus et famosissimus . . . , nullusque sui temporis sibi secundus in organis, lutina, cythara, fidella ac fistula, tibiis ac buccina . . . et in omnibus instrumentis musicalibus."
- One may argue against the idea of Paumann being the musician referred to in the letters of 1470, for the King of Naples also mentions a "musicus cecus tudisco" in his letter of 21 July 1475. If the letter shows the continued interest to recruit Paumann, it contradicts the fact that Paumann had already died two years previously. The letter is reproduced in Bertolotti, *Musici alla corte dei Gonzaga*, p. 9.
37. Judenkünig, *Ain schone kunstliche Underweisung*, f. A lv. In a fourteenth-century Italian illumination in Giovanni Andrea's *Novelle in libros decretalium*, Nicolò da Giacomo depicts Lady Music tuning her lute plucking the string with the thumb. See Howard Mayer Brown, "St. Augustine, Lady Music, and the Gittern in Fourteenth-Century Italy" (forthcoming). I am indebted to Professor Brown for making available to me this article before its publication.
 38. The treatise has been edited in Josef Reiss, "Pauli Paulirini de Praga Tractatus de musica (etwa 1460)," *Zeitschrift für Musikwissenschaft*, 7 (1924-25), 259-64; and Standley Howell, "Paulus Paulirinus of Prague on Musical Instruments," *Journal of the American Musical Instrument Society*, V-VI (1979-80), 9-36, esp. pp. 16 and 19. Also see Miloš M. Velimirović, "The Pre-English Use

- of the Term 'Virginal,'" *Essays in Musicology in Honor of Dragan Plamenac on His 70th Birthday*, ed. Gustave Reese and Robert J. Snow (University of Pittsburgh Press; Pittsburgh, 1969), pp. 342-46.
39. Weinmann, *Johannes Tinctoris*, p. 40; and Baines, "Fifteenth-Century Instruments," p. 21.
 40. New York, Robert Lehman Collection. Reproduced in Albert G. Hess, *Italian Renaissance Paintings with Musical Subjects*, fascicle II (New York, 1955), pl. CXIII. Although the instrument's peg-box is invisible, the shape of the body suggests it being a lute.
 41. For instance, the instructions in Munich, Bayerische Staatsbibliothek, Mus. Ms. 1512. See Kurt Dorfmueller, *Studien zur Lautenmusik in der ersten Hälfte des 16. Jahrhunderts*, Münchner Veröffentlichungen zur Musikgeschichte, Band 11 (Tutzing, 1967), pp. 46-47; and Paul Beier, "Right Hand Position in Renaissance Lute Technique," *Journal of the Lute Society of America*, XII (1979), p. 17.
 42. Judenkünig, *Ain schone kunstliche Underweisung*, wrote: "Unnd wann du die Tennzt lernen wild/ so steen offt/ vier oder funff puechstaben oder ziffer uber ainander/die straiß mit dem dawmen durchauß." See Mönckemeyer, *Hans Judenkünig*, p. 22. The technique may have originated before the six-course lute became standard. Also see Michael Morrow, "Ayre on the F# String," *The Lute Society Journal*, II (1960), p. 11.
 43. Joan Ambrosio Dalza, *Intabulatura de lauto, libro quarto* (Venice, 1508), f. 37. See Brown, *Instrumental Music*, pp. 14-16, item 1508-2. The *Saltarello* is transcribed in Brown, *Sixteenth-Century Instrumentation*, pp. 191-96.
 44. Reproduced in Page, "The 15th-Century Lute," p. 12, pl. 2.
 45. Petrucci's instructions for the lute are included in all of Petrucci's extant lute publications. See Brown, *Instrumental Music*, items 1507-1, 1507-2, 1508-2, 1509-1, 1511-1 and 152?-1. The lost volume of Giovan Maria (Johannes Maria Germanus?) may possibly have contained similar instructions. Sixteenth-century lute instruction treatises will be discussed in my dissertation.
 46. Berlin, Staatsbibliothek Preußischer Kulturbesitz, Depot Breslau 2. Ms. Rehd. 2, fol. 244. Reproduced in Edmund A. Bowles, *Musikleben im 15. Jahrhundert*, Musikgeschichte in Bildern, Band III: Musik des Mittelalters und der Renaissance, Lfg. 8 (Leipzig, 1977), pl. 145.
 47. The Bologna University Library, MS 596. HH 2^a. On the manuscript, see David Fallows, "15th-Century Tablatures for Plucked Instruments: A Summary, a Revision and a Suggestion," *The Lute Society Journal*, XIX (1977), pp. 18-28. The chanson is transcribed in Bertran E. Davis, ed., *The Collected Works of Vincenet*, Recent Researches in the Music of the Middle Ages and Early Renaissance, vols. IX and X (Madison: A-R Editions, 1978), pp. 167-69.
 48. Hans Gerle, *Musica und Tabulatur* (Nuremberg, 1546), fols. M 3-NI Iv. See Brown, *Instrumental Music*, pp. 82-84, item 1546-9. The relevant passages are translated in Jane Gail Illingworth Pierce, "Hans Gerle: Sixteenth-Century Lutenist and Pedagogue," Ph.D. diss., University of North Carolina, 1973, vol. 1, pp. 216-18.
 49. Reproduced in Georg Kinsky, *A History of Music in Pictures* (London, 1929), p. 65, pl. 1. See Gerhard C. Söhne, "Lute Design and the Art of Proportion," in

- Mark Lindley, *Lutes, Viols and Temperaments* (Cambridge, 1984), p. 112, on the profile of the lute depicted by Syrlin.
50. See David Edwards, "Dürer's Drawing 'Angel with a Lute,'" *The Lute Society Journal*, XVIII (1976), pl. 1, pp. 43-44.
 51. Weinmann, *Johannes Tinctoris*, p. 40; and Baines, "Fifteenth-Century Instruments," p. 21.
 52. Alter-piece from San Giobbe, Venice. Reproduced in Kinsky, *A History of Music*, p. 69, pl. 3. Gerle, *Musica und Tabulatur*, f. M 3, describes to anchor both the ring and little fingers near the soundhole. To anchor the finger or fingers may aid to support the instrument as well as to calculate the distance between the strings and fingers in order to stabilize finger-plucking motion. A lutenist in Lorenzo Costa's *A Concert* plucks the strings with the thumb and index finger while anchoring rest of the fingers on the edge of the soundhole. The painting is reproduced in Frank Harrison and Joan Rimmer, *European Musical Instruments* (London, 1964), pl. 87.
 53. Reproduced in Krautwurst, "Paumann," col. 970; and Walter Salmen, *Musiker im Porträt*, Band 1: Von der Spätantike bis 1600 (Munich, 1982), p. 61.
 54. The Buxheim Organ Book is reproduced in facsimile in *Das Buxheimer Orgelbuch*, ed. Bertha Antonia Wallner, Documenta musicologica, Second Series, 1 (Kassel, 1955) and is transcribed in *Das Buxheimer Orgelbuch*, ed. Bertha Antonia Wallner, Das Erbe deutscher Musik, vols. 37-39 (Kassel, 1958-59). See Eileen Southern, *The Buxheim Organ Book*, Musicological Studies, 6 (New York, 1963); and Christoph Wolff, "Conrad Paumanns Fundamentum organisandi und seine verschiedenen Fassungen," *Archiv für Musikwissenschaft*, XXV (1968), 196-222. Other German keyboard music of the fifteenth century has been published in Willi Apel, ed. *Keyboard Music of the Fourteenth and Fifteenth Centuries*, Corpus of Early Keyboard Music, vol. 1 (Rome: American Institute of Musicology, 1963).
 55. Howard Mayer Brown, "Instruments and Voices in the Fifteenth-Century Chanson," *Current Thought in Musicology*, ed. John W. Grubbs (Austin and London, 1976), p. 100. A northern French or Flemish manuscript of the second half of the fifteenth century "Cleriadus et Meliadic" includes a music scene where a harpist may have played a two-part chanson on the solo harp, and a miniature shows him using both hands for plucking the strings. See Christopher Page, "The Performance of Songs in Late Medieval France," *Early Music*, 10 (1982), pp. 446-47.
 56. See Pirrotta, "Music and Cultural Tendencies," pp. 153-54.
 57. On Pietrobono's style, see Pirrotta, "Music and Cultural Tendencies," pp. 157-58; Lockwood, "Pietrobono," p. 121; Brown, "Instruments and Voices," pp. 100-7; the Fallows, "15th-Century Tablatures," pp. 27-33; and Lewis Lockwood, *Music Renaissance Ferrara 1400-1505* (Cambridge, Mass., 1984), 95-108. On the music Pietrobono's tenorista might have played, see Brown, "St. Augustine, Lady Music, and the Gittern."
 58. The chanson is transcribed in Wolfgang Rehm, ed., *Die Chansons von Gilles Binchois (1400-1460)*, Musikalische Denkmäler, 2 (Mainz, 1957), pp. 49-50.
 59. Brown, "Instruments and Voices," p. 100, convincingly argues that intabulations of chansons for solo harp or solo clavichord must have resembled

- closely those for organ in the Buxheim Organ Book. The close relationship between organ and lute music is pointed out in Peter Danner, "Before Petrucci: The Lute in the Fifteenth Century," *Journal of the Lute Society of America*, V (1972), 4-17.
60. Howell, "Paulus Paulirinus," p. 16. Paulirinus uses the term "arfa" for the harp. See also Otto Gombosi, "Ad vocem cithara, citharista," *Acta musicologica*, IX (1937), 55-57; and Laurence Wright, "The Medieval Gittern and Cithole: A Case of Mistaken Identity," *The Galpin Society Journal*, XXX (1977), 8-42.
 61. The tuning instructions are discussed in Page, "The 15th-Century Lute," pp. 13-16; and Standley Howell, "Ramos de Pareja's 'Breif Discussion of Various Instruments'," *Journal of the American Musical Instrument Society*, XI (1985), (forthcoming), in which some of Page's conclusions are emended. I am indebted to Mr. Standley Howell for making available to me a part of his article before its publication. In addition, the Biblioteca Oliveriana, Pesaro, MS 1144 (formerly 1193), contains a tuning instruction for a six-course lute. See Ernest Paolone, "Codici musicali della Bibl. Oliveriana e della Bibl. del R. Conservatorio di Musica, di Pesaro," *Rivista musicale Italiana*, 46 (1942), pp. 189-95; Walter H. Rubsamen, "The Earliest French Lute Tablature," *Journal of the American Musicological Society*, XXI (1968), 286-99; and Fallows, "15th-Century Tablatures," pp. 10-18. And the Bologna fragment (see note 47) contains a diagram for tuning for a seven-course "viola".
 62. Weinmann, *Johannes Tinctoris*, pp. 42-43; and Baines, "Fifteenth-Century Instruments," pp. 23-24.
 63. Weinmann, *Johannes Tinctoris*, p. 41; and Baines, "Fifteenth-Century Instruments," p. 22. Although Tinctoris does not specify the number of strings on the lute to which his tuning system applies, Tinctoris probably had in mind a six-course lute, for a major third appears between "two middle strings". All the notes of the Guidonian hand can be found on a six-course lute with nine frets if the nominal pitch for the sixth course is the *Gamut*.
 64. Sebastian Virdung, *Musica getutscht* (Basle, 1511), f. K 3v. See Brown, *Instrumental Music*, pp. 20-21, item 1511-3. The work has been edited by Robert Eitner, *Publikationen älterer praktischer und theoretischer Musikwerke*, 11 (Berlin, 1882); by Leo Schrade (Kassel, 1931); and by Klaus Wolfgang Niemöller, *Documenta musicologica*, Ser. 1, Bd. 31 (Kassel, 1970). The section on the lute is translated in Uta Henning, "The Lute Made Easy: A Chapter from Virdung's *Musica getutscht* (1511)," *The Lute Society Journal*, XV (1973), 20-36.
 65. Martin Agricola, *Musica instrumentalis deutsch* (Wittenberg, 1529), ff. 29-29v. See Brown, *Instrumental Music*, p. 27, item 1529-1. A quasi-facsimile edition appears in Robert Eitner, *Publikationen älterer praktischer und theoretischer Musikwerke*, 20 (Leipzig, 1896). The treatise is translated in William Wood Hollaway, "Martin Agricola's *Musica instrumentalis deutsch*: A Translation," Ph.D. diss., North Texas State University, 1972.
 66. Agricola, *Musica instrumentalis deutsch*, f. 31v.
 67. Hans Gerle, *Tabulatur auff die Laudten* (Nuremberg, 1533), ff. A 2-2v. See Brown, *Instrumental Music*, pp. 42-43, item 1533-1. The preface is translated in Pierce, "Hans Gerle," 1, pp. 143-47. Agricola shows a tuning on f. 33v with

the inscription "Die Musicalische Scala mit der alten ungegründten Tabetthur/auff den Lauten hals applicirt". It shows a lute fingerboard with the characters used in the current German lute tablature.

68. For Plindthamer or Blindhamer, see Rudolf Wagner, "Wilhelm Breitengraser und die Nürnberger Kirchen- und Schulmusik seiner Zeit," *Die Musikforschung*, II (1949), pp. 168-69; and Franz Krautwurst, "Bemerkungen zu Sebastian Virdungs *Musica getuscht* (1511)," *Festschrift Bruno Stäblein zum 70 Geburtstag*, ed., Martin Ruhnke (Kassel, 1967), pp. 151-52.
69. Judenkünig, *Ain schone kunstliche Underweisung*, f. A lv.
70. Virdung, *Musica getuscht*, f, K 3v. See also Johannes Wolf, *Handbuch der Notationskunde* (Leipzig, 1919; Wiesbaden 1963), II, pp. 39-40, Tafel 1; and Willi Apel, *The Notation of Polyphonic Music 900-1600* (Cambridge, Mass., 1942; 5th ed., 1953), pp. 75-76.
71. Weinmann, *Johannes Tinctoris*, p. 41; and Baines, "Fifteenth-Century Instruments," p. 22.
72. Berlin, Staatsbibliothek preussischer Kulturbesitz, Ms. germ. qu. 719, fasc. 4. On the manuscript, see Paul Sappler, ed., *Das Königsteiner Liederbuch*, Münchener Texte und Untersuchungen zur deutschen Literatur des Mittelalters, XXIX (Munich, 1970); Hans Tischler, "The Earliest Lute Tablature?," *Journal of the American Musicological Society*, XXVII (1974), 100-3; and Fallows, "15th-Century Tablatures," pp. 8-10.
73. In both Italian and French lute tablatures, a specific fret is determined by an axis between a horizontal line that represents a string and a numeral or letter of the alphabet that decides the vertical division of strings in semitone intervals. Pitch intervals between the six lines in the tablature correspond with the tuning of a six-course lute. The system resembles mensural notation in which each line is layered by the interval of a third.
74. See, for instance, "Trois breves rigles pour estre tost et facilement introduit en la tabulature du lutz" in Pierre Attaingnant's *Tres breve et familiere introduction* (Paris, 1529). See Brown, *Instrumental Music*, pp. 28-29, item 1529-3. The instructions are reprinted in Wolf, *Handbuch*, II, pp. 72-73; and in Jean-Michel Vaccaro, *La Musique de luth en France au XVI^e siècle*, Centre National de la Recherche Scientifique (Paris, 1981), pp. 451-52.
75. For a brief discussion on the blind organist Antonio Cabezòn's method of notation, see John M. Ward, "Spanish Musicians in Sixteenth-Century England," *Essays in Musicology in Honor of Dragan Plamenac on His 70th Birthday*, ed. Gustave Reese and Robert J. Snow (Pittsburgh, 1969), p. 361, n. 24. Also see Rudolf Henning, "German Lute Tablature and Conrad Paumann," *The Lute Society Journal*, XV (1973), 7-10.
76. Gerle, *Tabulatur auff die Landten*, f. A. 2. The purpose of using lute tablature for sighted lutenists seem to differ from what Paumann must have considered as the prime reason for using the system. Since lute tablature is adequate for notating various polyphonic voices on a single staff with alignment of notes in superimposition of parts, it helps the lutenist's visual control of simultaneities of voices when he attempts the solo performance of polyphonic compositions from written music. Therefore, as Gerle points out, tablature is ideal for lutenists to study the rhythmic relationship between the voices since the

- counterpoint needs to be understood and realized in playing. Lute tablature can accommodate various objectives depending on the educational capacities of its users. The illiterate lutenists can perform polyphonic counterpoint needs to be understood and realized in playing. Lute tablature can accommodate various objectives depending on the educational Manuscript," *Journal of the American Musicological Society*, XIII (1960), p. 147, n. 50, on a discussion on the use of tablature described in Juan Bermudo, *Decларación de instrumentos musicales*, (Osuna, 1555), f. 83.
77. The question on Virdung's reliability has been raised in Hans H. Lenneberg, "The Critic Criticized: Sebastian Virdung and His Controversy with Arnold Schlick," *Journal of the American Musicological Society*, X (1957), 1-6; and Edwin M. Ripin, "A Reevaluation of Virdung's *Musica getuscht*," *Journal of the American Musicological Society*, XXIX (1976), 189-223. Cf. Krautwurst, "Bemerkungen," 143-56.
78. For Matteo Tedesco, see Guglielmo Barblan, "Vita musicale alla corte sforzesca," *Storia di Milano*, IX (1961), p. 802. For Janes Tedesco, see Slim, "Gian and Gian Maria," pp. 562-63. For Agustino Tedesco, see Bertolotti, *Musici alla corte dei Gonzaga*, p. 25; Slim, "Musicians," p. 155; and William F. Prizer, "Lutenists at the Court of Mantua in the Late Fifteenth and Early Sixteenth Centuries," *Journal of the Lute Society of America*, XIII (1980), p. 17. A Stefano Teutonico who was sent to study with Pietrobono is mentioned in Barblan, "Vita musicale," p. 803; and Lockwood, "Pietrobono," p. 124. For Niccolo Tedesco who was perhaps an early model for Pietrobono, see Lockwood, "Pietrobono" p. 119. Although Pietrobono has been proved to have been a native of Ferrara (see Lockwood, "Pietrobono," p. 116), his mother was a daughter of a Biagio todesco. See Luigi Napoleone Cittadella, *Documenti ed illustrazioni riguardanti la storia artistica ferrarese* (Ferrara, 1868), pp. 293-94; and Lockwood, "Pietrobono," p. 116.
79. Weinmann, *Johannes Tinctoris*, p. 45; and Baines, "Fifteenth-Century Instruments," p. 24.
80. See Dorfmüller, *Studien zur Lautenmusik*, pp. 27-35.
81. Weinmann, *Johannes Tinctoris*, p. 41; and Baines, "Fifteenth-Century Instruments," p. 22.
82. See Dorfmüller, *Studien zur Lautenmusik*, p. 33. Vitale, writing ca. 1517 in Venice, mentions the superiority of the strings made in Munich. See Otto Gombosi, ed., *Composizione di Meser Vincenzo Capirola: Lute-book (circa 1517)* (Neuilly-sur-Seine, 1955), p. XCII.